MCS™
Series
Modular Component Systems
Belt Driven Turntable

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Dear Penney Customer:

The product you have purchased has been carefully engineered and manufactured to give you dependable operation. Read this handbook before operating your unit to become familiar with its features, and assure your obtaining the performance that will bring you continued enjoyment for many years. In the event you require technical assistance please contact your local retail store or catalog desk. Retain this handbook for future reference.

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In the spaces provided below, record the model and serial numbers located on the back of the turntable cabinet.

MCS™ Modular Component Systems

Series Belt Driven Turntable

Model_____ SN_____

Retain this number for future reference.

WARNING...

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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Features

❶ DC Motor with Frequency Generator Servo-Controlled Circuits

DC motor incorporates frequency generator servo-controlled circuits as well as highly-reliable IC circuits in order to obtain superb rotational characteristics against any load fluctuations. In addition, the DC motor of this model consumes less than 0.5 watt, thanks to these two circuits, which means much less vibration caused by the motor.

❷ Constant Speed Against Power Fluctuations

Speed is independent of the influence of home current fluctuations, thanks to the DC motor and frequency generator servocontrolled circuits.

❸ Electronic Speed Switching by Frequency Generator

Switching from 33-1/3 to 45 rpm or vice versa is not done mechanically (as in conventional belt-drive systems) but electronically, with the help of the frequency generator servo circuit. This provides higher precision, reliability and longer life as no mechanical parts are subject to wear.

❹ Variable Pitch Control

With the control knob on the control panel, the turntable speed can be "fine-tuned" within a range of 6%, e.g. to match the pitch of a tune to a musical instrument.

❺ Illuminated Stroboscope

Stroboscope markings on the platter edge are illuminated by a built-in strobo lamp for easy visibility.
When one line of markings seems to stand completely still, the platter is rotating at precisely the rated speed.

❻ Automatic Tonearm Return

Extra convenience: at the end of the record, the tonearm lifts off and returns to its rest position automatically, and the unit shuts itself off. This feature not only makes life easier for you, but also prevents useless, irritating play of the lead-out grooves and the accompanying stylus wear.

❼ Built-in Audio Insulators

Four audio insulators prevent acoustic feedback by utilizing a combination of metal spring and vibration-absorbing material. Also, the cabinet is composed of an exclusive particle board reinforced by ribs, to absorb outside vibration.

❽ Anti-Skating Force Device

An anti-skating force devicel counteracts side thrust; simply set the dial scale to the same value as the tracking force.

❾ Viscous-Damped Cueing Lever

For smooth descent. Your tonearm will land exactly at the spot you desire.

❿ Hinged, Detachable Dust Cover

Caution

- Never connect the AC power plug before preparation has been completed!
- Do not hold the turntable platter while it is rotating as this may damage the belt or cause it to slip off the turntable platter.
- Do not grasp or hold the tonearm during operation of the automatic-return mechanism.
- Clamp the tonearm with the arm clamp when not using the turntable.
- Use the stylus protector to protect the stylus tip from damage.

In order to receive the best service from this unit, and for the safest operation, carefully read the following information.

Power source
It is very dangerous to use this unit at a voltage which is different from the rated voltage.
There is danger of combustion if the unit is connected to a power source which is different from the rated voltage. Be very careful concerning this point.
Direct current cannot be used.
There are some places, such as ships, where direct current is used as the power source. Before connecting the unit, confirm the power source.

Connection of power cord
Wet hands are dangerous.
Be sure to never touch the power cord with wet hands because there is danger of electric shock. This is true, of course, of all electric equipment.
Do not pull the power cord.
Never pull the power cord to disconnect it. Always pull the plug of the cord only.

Location of unit.
Choose a place which is not in direct sunlight.
Select a place which will assure good ventilation.

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Preparation for use

Never place heating equipment nearby.
Be sure to keep stoves and other sources of heat away from this unit, because heat radiated by such equipment may cause deformation of plastic parts or damage the cabinet, or, at worst, cause a fire.

Especially for families with children
Take care that no small items, such as metal objects, are put inside this unit.
In addition, children should be especially warned not to put anything into the ventilation holes, such as toys or a screwdriver, because these things may cause an electric shock or result in a malfunction of the unit.

If water spills on the unit.
If water should happen to spill on the unit, from an over-turned vase for example, there is danger of fire or electric shock. Disconnect the power plug from the electric outlet immediately, and contact the store from which the unit was purchased.

Reconstruction can cause accidents.
Absolutely never try to remodel, reconstruct or repair this unit yourself. Do not attempt to touch any internal parts because to do so may result in an electric shock or other accident.

Be sure the power is off.
After you have finished using this unit, check once more to be sure that the power is off. If the unit is left with the power on for a long period of time, it may not only be damaged, thus shortening its useful life, but may also lead to a dangerous accident.

Note:
Attach the dust cover last, so that preparation can be made most conveniently.
Your Belt-Driven Turntable has been carefully packed to prevent damage during transportation. Prepare your unit for use as follows:

❶ Remove the parts box loosening the transit screws with a screwdriver and take out the spacers. (See Fig. 1.)

We recommend that you keep these for future use, when the unit must again be transported.
This will prevent damage due to shock and vibration.

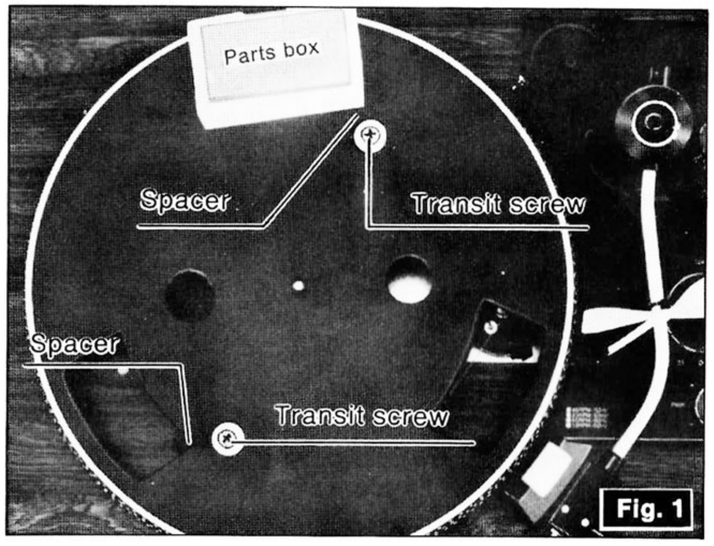

Fig. 1

❷ Confirm the parts inside the parts box.

- Balance weight with mounting screw 1
- 45-rpm adaptor..... 1

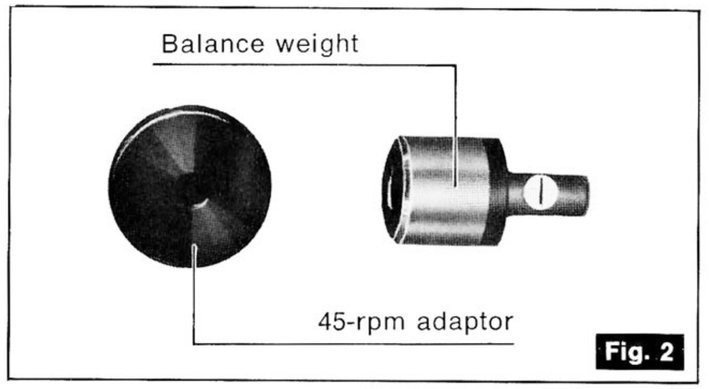

Fig. 2

❸ Place the turntable mat on the platter

Note:
After having placed the turntable mat, manually rotate the turntable platter clockwise about 10 times.
This will disengage the automatic mechanism from the tonearm gear, which in rare cases may have moved out of its normal position during transportation.

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❹ Installation of the balance weight

(See Figs. 3 and 4.)

Remove the balance weight mounting screw, and install the balance weight on the rear of the tonearm.

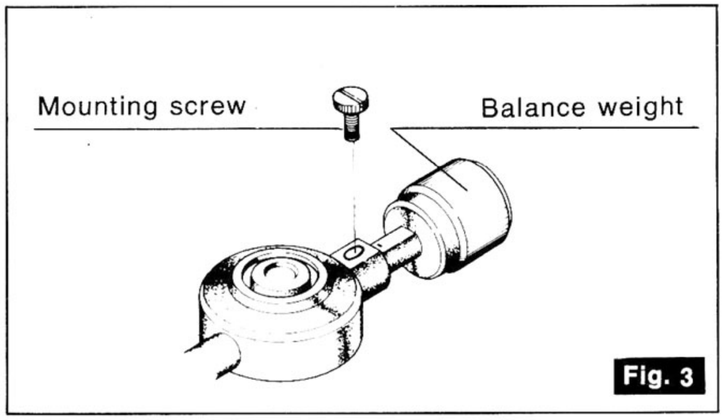

Fig. 3

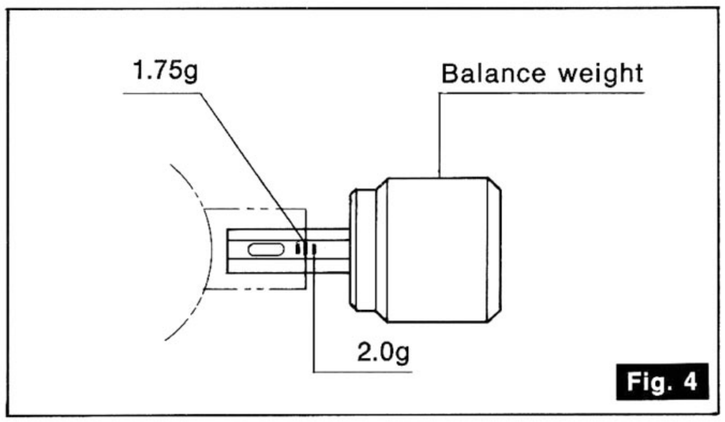

Fig. 4

How to adjust stylus pressure

The stylus pressure lines are calibrated in 0.25 gram. The recommended stylus pressure is 1.75 g.
Set the balance weight to the center long line (1.75 g) and then tighten the screw with a screwdriver for securing. **(See Fig. 4.)**

Note:
When the recording level of the disc is very high or the unit is exposed to vibration, set the balance weight to the 2 g position. **(See Fig. 5.)**

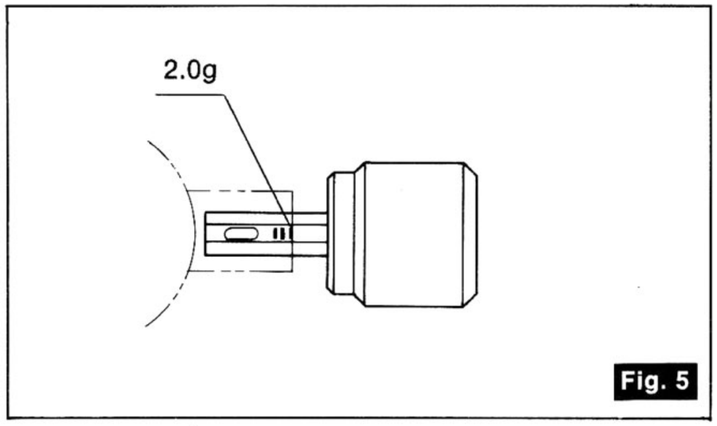

Fig. 5

How to adjust anti-skating force

Skating force is the frictional force caused by contact between the tip of the stylus and the record groove, and is applied to the stylus as a side pressure depending upon the relationship of the geometrical position of the tonearm.
This force results in an unbalance of contact pressure between the stylus tip and each groove wall of the record, an increase of distortion, a decrease of separation characteristics and abnormal wear of the stylus tip and the record grooves.
This bias knob performs the compensation function. The amount of anti-skating force is in proportion to the stylus pressure and, therefore, should be adjusted according to the stylus pressure.

❺ Set the bias knob (anti-skating control) to the same value (1.75) as the stylus pressure

(See Fig. 6.)

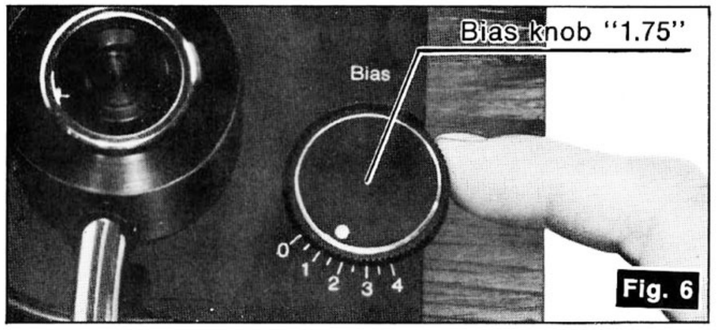

Fig. 6

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❻ Installation of the dust cover

(See Fig. 7.)

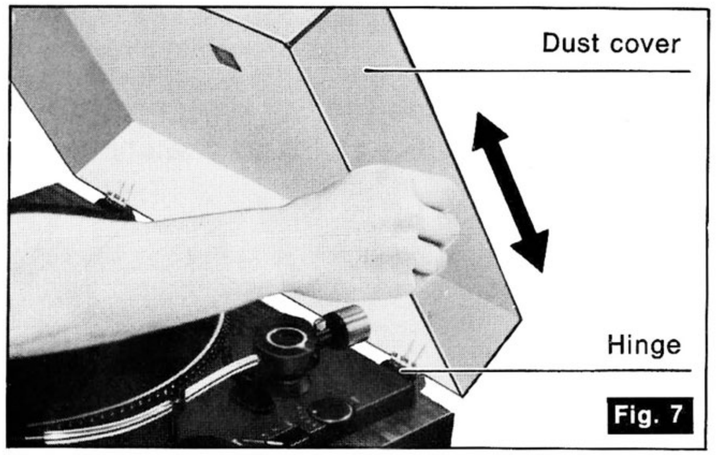
Place the dust cover into position from directly above, holding it at both sides.

For detaching the dust cover, be certain first to raise it as illustrated before removal.

Note:

Opening or closing of the dust cover during play should be avoided. Since this may not only cause vibrations, but also result in skipping of the stylus.

If you must open it during play it should be done as gently as possible.



❼ Placement

1. Place the unit in a stable and horizontal position, where there is little or no vibration.
2. Use the unit as far away from the speakers as possible and isolate the unit from sound radiation from them.
3. Do not place the unit where it is exposed to direct sun, dust, moisture or heat.
4. Keep it in a well ventilated place.

❽ Connections

(See Fig. 8.)

1. **Connect the AC power plug.**

   Connect the AC power plug to the AC socket or to an AC outlet of your amplifier or receiver. (120V AC)

   Never connect the power plug to any other voltage as this can damage the unit, and it is not covered by the warranty.

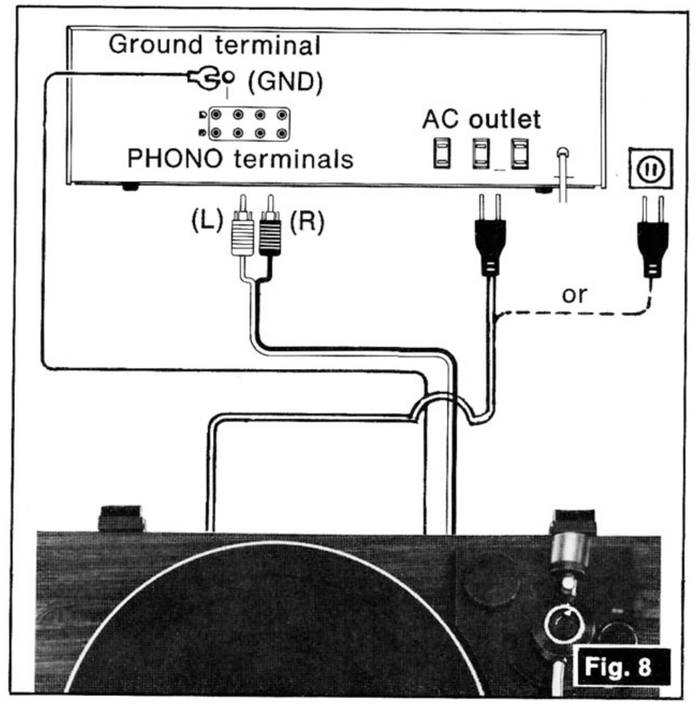
   Also never connect to a DC socket.

2. **Connect the output terminals.**

   Connect the output terminals to the same channels of your amplifier or receiver.

   If your amplifier or receiver have a MAGNETIC (MAG)/CERAMIC(CERA) phono switch be sure to set the switch to the MAG PHONO position.

Output terminals	**Amplifier or Receiver**
L(White) ——→	L Channel
R(Red) ——→	R Channel
GND(Spade lug) ——→	GND



Note:

Be sure to connect the ground terminal firmly to the amplifier or receiver. If this connection is not made or is loose, a power source "HUM" will result.

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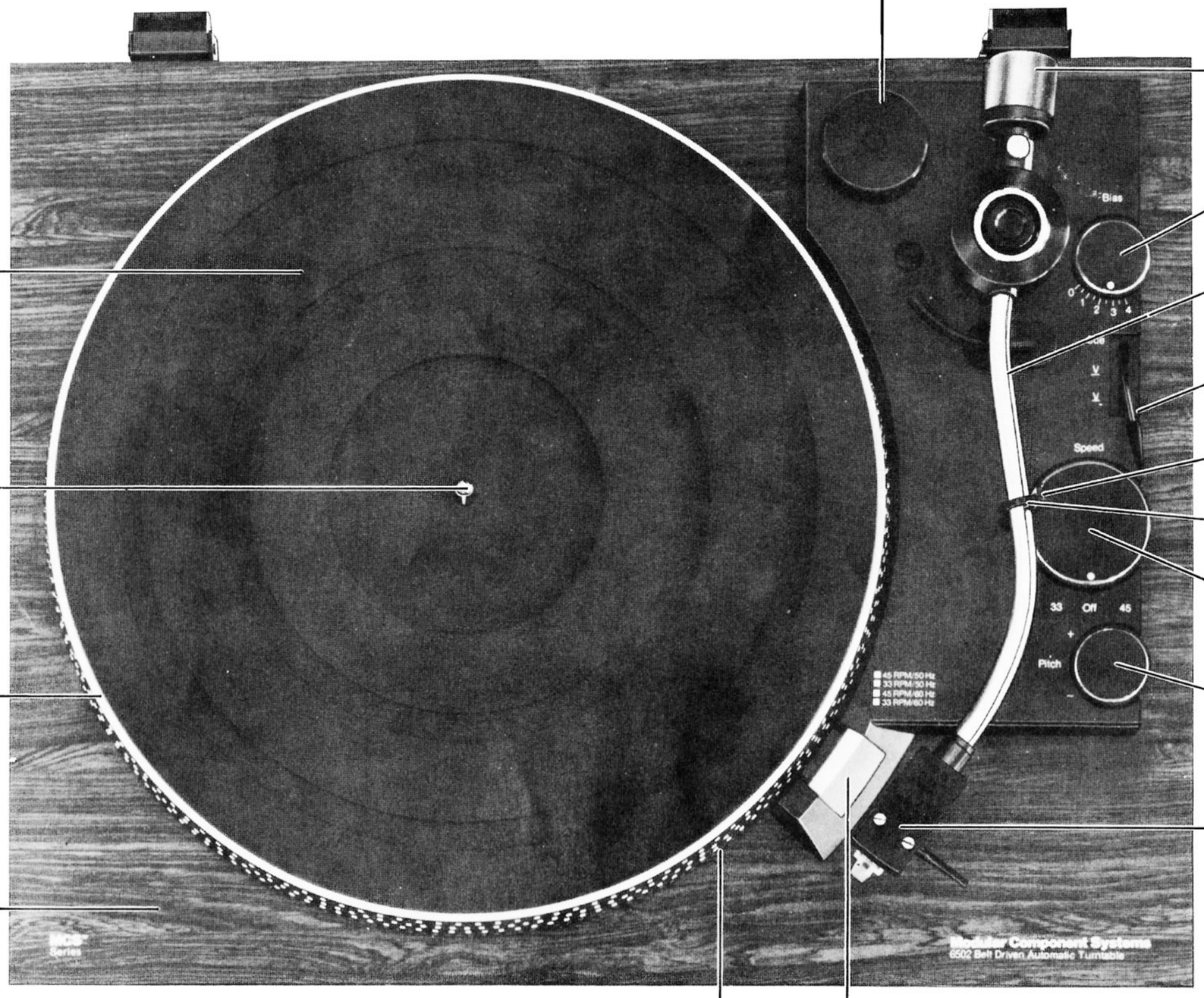
Parts identification



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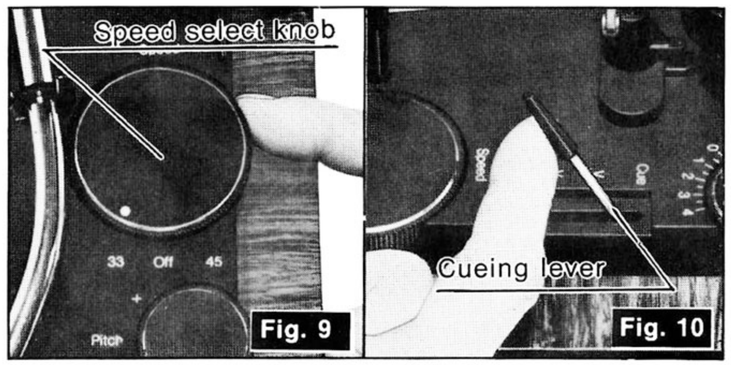
How to play

❶ Place a record on the turntable mat.
❷ Set the speed select knob to the desired record speed. **(See Fig. 9.)**
❸ Remove the stylus protector, and release the arm clamp.
❹ Raise the cueing lever to the "⩡" position **(Fig. 10)**, and place the tonearm over the lead-in groove or over any other groove, and then lower the cueing lever to the "⩡" position.
❺ The tonearm will descend slowly onto the record and begin playing.
❻ When playing has finished, the tonearm returns to its rest automatically.
❼ After play is completed, fasten the tonearm with the arm clamp and set the speed select knob to the "off" position.
• Attach the stylus protector again to protect the stylus tip from damage.



■ When you play a 45-rpm record with a large center hole

Place the 45-rpm adaptor on the center spindle.
Set the speed select knob to the "45" position.

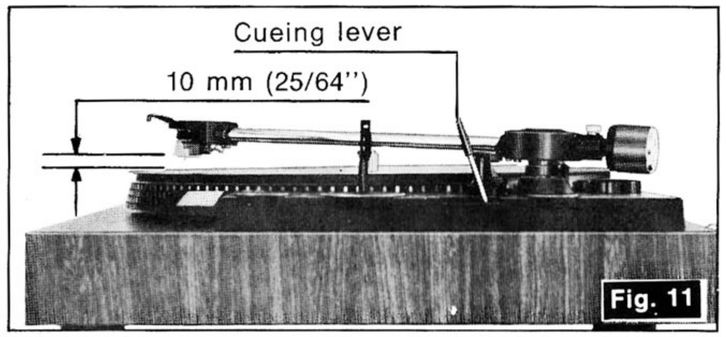
■ How to suspend play

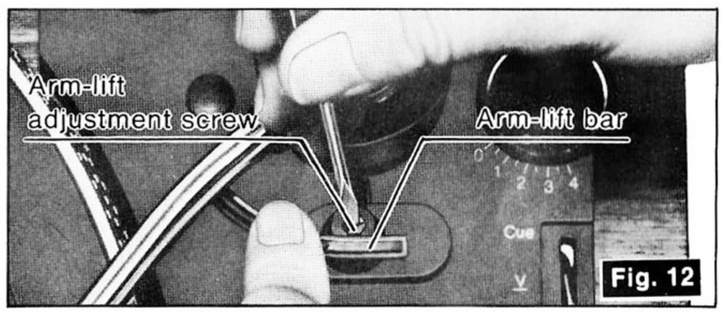
Set the cueing lever to the "⩡" position.
The stylus tip of the cartridge will be lifted from the record.

Adjustments

❶ Adjustment of the arm-lift height

(See Figs. 11 and 12.)
The arm-lift height (distance between the stylus tip and record surface when cueing lever is raised) has been adjusted at the factory before shipping to approximately 10 mm.
If the clearance becomes too narrow or too wide, turn the adjustment screw clockwise or counterclockwise, while pushing the arm lift down.
Clockwise rotation
—distance between the record and stylus tip is reduced.
Counterclockwise rotation
—distance between the record and stylus tip is increased.

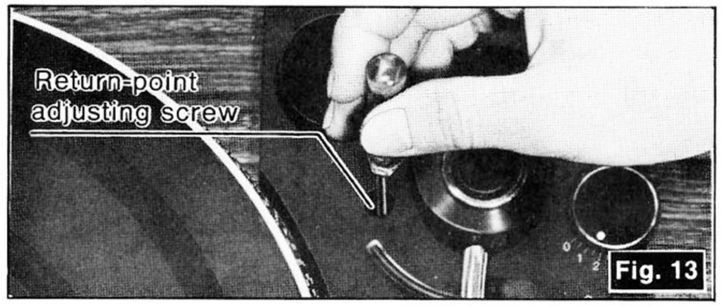




Note:
As the adjusting screw has a hexagonal head, be sure to make the adjustment while depressing the arm lift, or the screw will not move freely.
Also be sure that the hexagonal head retracts correctly into the arm lift when the latter is released.

❷ Tonearm return point

In some cases, the tonearm will tend to return to its rest position before playing has finished. In other cases, it may fail to return to the rest position even after playing the last groove of the record.
Rotate this screw to correct for either condition. **(See Fig. 13.)**
If the tonearm returns to its rest too soon.
—Turn this screw counterclockwise.
If the tonearm does not return to its rest even after playing the last groove.
—Turn this screw clockwise.



❸ Speed adjustment (with pitch control knob)

Strobe dots are set on the rim of the turntable platter according to the power-line frequency and the number of revolutions of the records. Make adjustment, referring to strobe-dot indication. **(See Fig. 14.)**
1. Place a record on the turntable mat.
2. Set the speed select knob to the speed to be adjusted.
3. Adjust the speed while playing a record.
The strobe-illuminator/pilot lamp will be lit for illuminating the strobe dots.
4. While turning the pitch control knob either to "+" side or "−" side, adjust so that the strobe dots of the turntable platter look as if they were stationary.
The state under which the strobe dots seem to be stationary represents the correct number of revolutions.

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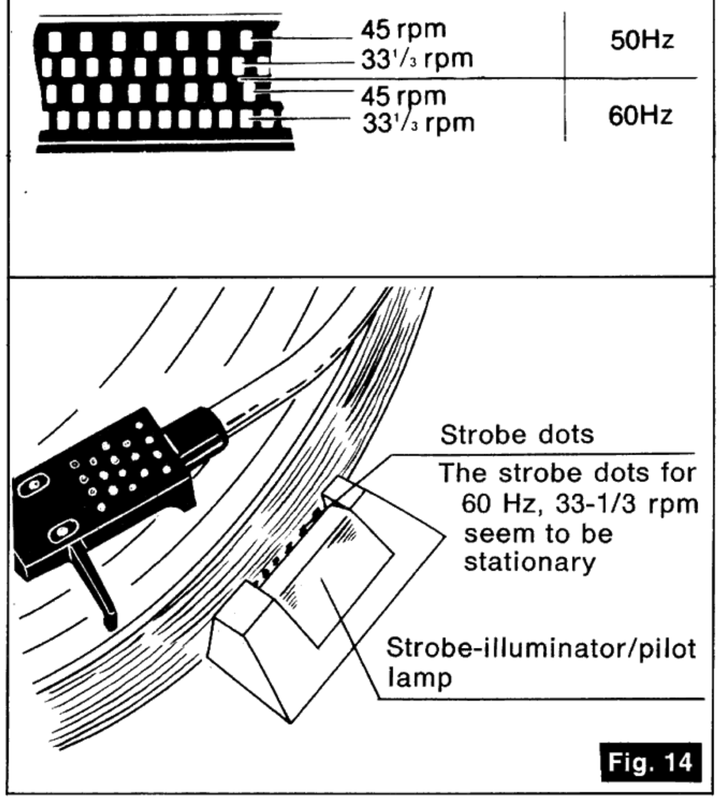

Fig. 14

"+" direction
This increases the speed of the turntable rotation, and the strobe dot pattern seems to flow in the same direction as the rotational direction of the turntable platter.
"−" direction
This decrease the speed of the turntable rotation, resulting in a state opposite to that in the "+" direction.

Note:
Strobe dot pattern
The strobe-illuminator/pilot lamp of this unit employs the commercially available power source.
The frequency of such power source, when actually measured, has a fluctuation of about 0.2%. As such a fluctuation of the power source affects the strobe illuminator, the strobe dot pattern also seems to fluctuate to a certain extent.
But the unit is not affected by these fluctuations of the power source, since a DC motor is employed. In other words, rotation of the platter will be constant, and slight shifts in the movement of the dots simply reflect normal drift in the power-source frequency.

Maintenance

❶ Keep the stylus and your records clean
If the stylus is not kept clean, it will not contact the record groove properly, nor track perfectly, resulting in sound deterioration as well as damage to both the record and the stylus tip.
Be especially careful to clean away all dust and dirt from the stylus tip with a soft brush or blower. DO NOT USE YOUR FINGER. YOU MAY DAMAGE THE STYLUS.
We recommend having your stylus checked periodically by J.C. Penney Store. Remember, a worn or damaged stylus can permanently damage your record collection.
Attach the stylus protector when not in use, and keep the turntable dust cover closed both when playing a record and when the turntable is not in use.
Records should be kept free of dust and finger marks, and stored in their protective jackets when not in use. Records not kept clean will cause scratchy sound, and deterioration of the record and stylus. Clean your records regularly with a record cleaning kit available at J.C. Penney.

❷ Wipe the dust cover and turntable cabinet with a soft, dry cloth
Never use any cleaners containing alcohol, benzine or thinner. To remove stubborn finger prints or grease spots, first disconnect the AC power plug and use a soft cloth dampened with a mild soap and water solution.

❸ The precision frequency generator motor used in this unit does not need lubrication
It is designed to provide long maintenance-free service.

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Care

In the Event of Trouble

Hum...Your turntable utilizes a DC servo motor to reduce inductive hum. If annoying inductive hum is heard, it can be caused by the electromagnetic field produced from the motors or transformers used in another device. Do not place the turntable near a device in which a motor or transformer is used. To prevent the turntable from being affected by the power transformer of your amplifier, receiver or tape deck, place the turntable on the opposite side of the power transformer.

Acoustic Feedback...Cartridges are very sensitive and may pick up slight sound pressure or vibrations of the speaker coming along the floor or even though the air if close enough. Therefore, the location of your turntable is very important. See paragraph "placement" on page 6.

Automatic mechanism...While moving the tonearm toward the record, there may be cases where the tonearm tends to return to the arm rest. In such a case, rotate the turntable platter clockwise about 10 times.
This will disengage the automatic mechanism from the tonearm gear, which in rare cases may have moved out of its normal position during transportation.

Service...Contact your J.C. Penney store or Product Service Center if any service is ever necessary.

Replacement

❶ Replacement of the stylus

(See Fig. 15.)

❶ Raise the forward end of the tonearm, with the arm clamp detached.
❷ Carefully grasp the stylus assembly and raise it's top portion as shown in the illustration "**A**", then pull it as "**B**".
❸ Be careful not to touch the stylus tip, and install the new one in the reverse order like "**B**" to "**A**".

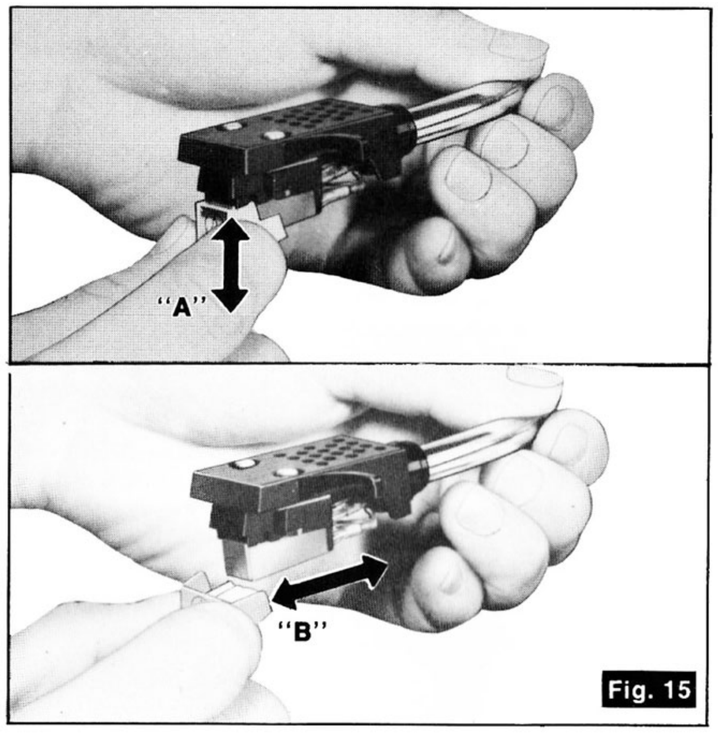

Fig. 15

❷ How to remove and install the turntable platter

The belt is connected to the capstan and the inner drive rim of the turntable platter.
Before removing the turntable platter, release the belt from the capstan. **(See Fig. 16.)**
When reinstalling the turntable platter, lower it over the center spindle and then put the belt onto the capstan.
Note:
Be careful not to let oil or grease contact the belt.
If grease inadvertently contacts the belt, disconnect the AC power plug and wipe the belt clean with alcohol.

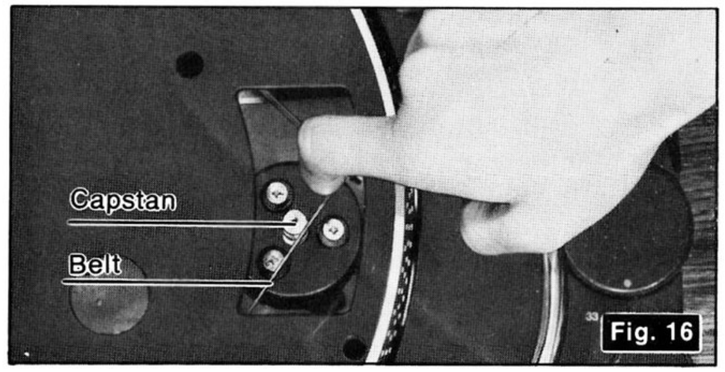

Fig. 16

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Specifications

General

Power supply .....120 V AC, 60 Hz
Power consumption 3W
Dimensions .....13.5 × 42.8 × 34.8 cm (H × W × D) 5-5/16 × 16-55/64 × 13-45/64 inches (H × W × D)
Weight .....4.8 kg (10.7 lbs.)

Turntable section

Type .....Frequency Generator Servo Turntable, Automatic-return
Driving method .....Belt drive
Motor .....DC motor with Frequency Generator Servo
Turntable platter .....Aluminum diecast, 30 cm (12") diameter
Turntable speeds .....33-1/3 and 45 rpm
Pitch control .....6% adjustment range
Speed change method ...Electronic change
Wow and flutter .....0.05% W.R.M.S. (JIS C5521) ±0.08% peak (IEC 98A Weighted)
Rumble .....−65 dB (IEC 98A Weighted)

Tonearm section

Type .....“S” shaped tubular arm, semi-integrated and staticbalanced type
Effective length .....220 mm (8-21/32")
Overhang .....14 mm (35/64")
Tracking error angle .....Within +3° (at the outer groove of 30 cm (12") record) Within −0.2° (at the inner groove of 30 cm (12") record)
Offset angle .....22°

Cartridge section

Type .....Moving magnetic stereo cartridge
Frequency response .....20 to 25,000 Hz
Output voltage.....2.5 mV 1 kHz, 5 cm/sec. zero to peak lateral velocity (3.5 mV 1 kHz, 5 cm/sec. zero to peak 45° velocity)
Channel separation .....22 dB at 1 kHz
Channel balance .....Within 2 dB at 1 kHz
Load impedance .....47kΩ to 100kΩ
Stylus pressure .....1.75 ±0.25 g
Replacement stylus EPS-74STSD

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